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*Notes on Manchuria.* By the Rev. ALEXANDER WILLIAMSON.

[EXTRACTS.]

SOUTHERN MANCHURIA.—I have paid three visits to this country,—the *first* in the spring of 1864; the *second* in April, 1866, when I travelled from Newchwang overland to Pekin; and the *third* this autumn (1867), on which occasion I made two journeys, the one northwards, *viâ* Hai-Ching and Lian-Yang, to Moukden (called also Shin-Yang), the capital of Manchuria, and the other round the promontory, as far as the Gate of Corea, and visiting every place of any importance both on the seaboard and inland. I am the more disposed to publish these notes as I have found it a country of much interest and great promise, and not that barren, bleak, and lawless country generally supposed.

*Surface viewed in reference to its Natural Characteristics.*—Southern Manchuria may be divided into two distinct regions,—the one comprising a plain, and the other comprehending an elevated country full of high mountains. A line drawn from Nin-Cha-foo (lat.  $41^{\circ} 12' N.$ , long.  $121^{\circ} 10' E.$ ) north-east to Shin-Yang, thence south by west, through Lian-Yang and Hai-Chung, to Kaichow and the sea, will divide these two unlike districts, leaving the level country on the south and the mountains on the north and east. The former is an alluvial deposit, extremely fertile, except contiguous to the sea, where that saline exudation so common in the north of China interferes fatally with the productions of the soil. The other portion consists of huge mountain masses, interspersed with fertile and sometimes extensive valleys.

As may be supposed, the character and aspect of these two portions of Manchuria differ very much. The plain is monotonous, and in some places dreary, especially in proximity to the sea; yet it has its charms. Fine crops of tall millet and other grain, large villages with their clusters of trees and a busy population, relieve the eye in summer; and numerous lagoons, covered with reeds and swarming with water-fowl of every description, render it somewhat interesting even at the bleakest season of the year.

*Climate.*—The climate of Manchuria presents the extremes of heat and cold. In summer the temperature varies from  $70^{\circ}$  to  $90^{\circ}$ , and in winter from  $45^{\circ}$  above, to  $10^{\circ}$  below, zero. The rivers are generally frozen over by about the 20th November, and are not navigable till the middle of March. The crops grow and come to perfection in a few months, and by the end of October everything is safely housed. The winter generally begins with a snowstorm; after which the weather clears up, and hard dry frost sets in, which con-

tinues, with the relief of a fall of snow now and then, till the sun asserts its supremacy. This season is very enjoyable; warmly clad, you can scour the country in all directions—marsh, lake, or river, presenting no obstacle.

*Rivers.*—There are only two rivers of any importance in this quarter of Manchuria, viz., the *Liao-ho*, and the *Ta-Yang-ho*. The former rises in Mongolia, and, after pursuing an easterly course for about 400 miles, turns southwards and pours its waters into the Gulf of Liao tung. Within 150 years large junks used to go up the river as far as the city of Newchwang; but owing either to the accumulation of débris, or, as I am rather inclined to think, in consequence of the rising of the country, they can only now reach the town, called Yang-tsze, where the foreign settlement is, about 20 miles from the bar. Here, however, there is plenty of water for ships of large tonnage, and the river is about 650 feet wide. The tide affects the stream for many miles; good-sized junks can yet ascend to Tien-chwang-tai, and boats as far as Moukden. On the Moukden branch, while small junks can ascend as far as *Tie-ling*, on the main stream, at high water, there is about 16 feet on the bar. The other river rises among the hills, receives a great many minor streams, but especially one from the borders of Corea, flows south-east, and pours its waters into the Yellow Sea. At first rapid, owing to the conformation of the country, it gradually becomes slower as it nears the ocean, and for the last 15 miles of its course is rather an important river. The tide also affects it for this distance, and it is fully taken advantage of for the purposes of commerce.

*Chief Cities.*—Maikelen (lat.  $41^{\circ} 40'$ , long.  $123^{\circ} 50'$ ), more commonly called Shin-Yang, or the capital of Manchuria. It lies on the north of the river Shinan, affluent of the Liao-ho, and is very pleasantly situated. It is a large city, with high gates; the streets are well laid out, full of good shops. Being the chief city of the province, all kinds of produce peculiar to the country find their way to it, and it is thus an emporium of native goods, the seat of a considerable distributing trade of all descriptions. We found many foreign commodities for sale, such as Russian cloth, Manchester goods, foreign iron, &c., &c. Fur shops, full of fine furs, were found in great numbers in the Great East and West Street. There were also several large book-shops, speaking well for the literary tastes of the people. Kingchu-foo, lat.  $41^{\circ} 12'$ , long.  $121^{\circ} 10'$ . This city stands next in importance. It lies not far from the sea, and has a considerable trade. Lian-Yang, lat.  $41^{\circ} 18'$ , long.  $123^{\circ} 10'$ ; this city, once the capital, embraces within its walls a large area of ground, much of which is now laid under cultivation, chiefly as vegetable gardens. In the centre of the city, however, there are many

large and excellent shops, and there appears to be a good amount of country trade. Hai-Ching, lat.  $40^{\circ} 52'$ , long.  $122^{\circ} 40'$ . This city, much smaller in circumference than Lian-Yang, has about an equal amount of business. The shops were well stocked, and the people well to do. Kai-Chow, lat.  $40^{\circ} 30'$ , long.  $122^{\circ} 18'$ . This city is more compact than either Hai-Ching or Lian-Yang, and has a considerable trade. Fuchow, lat.  $39^{\circ} 50'$ , long.  $121^{\circ} 38'$ . This is a neat, well-built city, but of little importance, except as the centre of some country trade. Kinchow, lat.  $39^{\circ} 10'$ , long.  $121^{\circ} 36'$ . Larger than Fuchow, walls equally good; it has about the same amount of business, but is a much less pleasant city. It is washed by the sea, but owing to the character of the coast no junks can trade in the neighbourhood. They accordingly visit the smaller seaports on the south-west, or Ta-lien-wan Bay on the south-east. Siu Yen, lat.  $40^{\circ} 15'$ , long.  $123^{\circ} 18'$ ; Foong-Whung-Ching, lat.  $40^{\circ} 32'$ , long.  $124^{\circ} 11'$ ; Newchwang, lat.  $41^{\circ}$ , long.  $122^{\circ} 30'$ . These cities possess one important feature in common, and one quite unlike those above described. The former are *bonâ fide* Chinese cities, within high walls, with good gates, &c.; but these are peculiar in this respect, that the city proper is a comparatively small square enclosure, with a moderately high wall, occupied almost exclusively with the mandarin offices, while all the business is done in the suburbs, which are extensive and regularly laid out. The chief street in the suburb of Siu-Yen is about a mile long, and contains many good shops. It is famed for its finely-veined stones, and many find their occupation in cutting and polishing marble ornaments of various descriptions. Fung-whang-ching has a good country trade, and exceeds Siu-Yen in population and importance. Being nearest to Corea, it has gathered some notoriety as the emporium of Corea goods, and is the first place where the Chinese and Corean officials exchange courtesies, when the embassy from the latter country passes on to Peking. The native city of Newchwang is larger than either Siu-Yen or Fung-whang-Ching, but the suburbs are much less extensive. The place is famous for its excellent water, which is used in the manufacture of spirits, and is also noted for the production of saltpetre.

*Seaports.*—As might be inferred from the character of the country, there are many seaports of greater or less importance all round the coast, but there are only three of any note. The first and chief is Ying-tsze, on the Liao-ho, where the foreign settlement is established. The main street of this is fully 2 miles in length, the native warehouses are most extensive, and the trade is very large. Junks from all quarters visit it, and the foreign shipping is now considerable. The seaport next in magnitude is Ta-ku-Shan, lat.

39° 55', long. 123° 5'. This town is on the Ta-Yang-ho, and lies about 12 miles from the Yellow Sea. Like Ying-tsze, it possesses many large native warehouses, and is the medium through which an enormous amount of produce from the north is exported. It competes with Ying-tsze in soliciting the trade in pulse and bran cake, but is not likely to succeed. At the same time we met great quantities of goods on the way to this port, which, as far as we could judge, could as easily have been conveyed to the other. There was a great amount of native shipping in the harbour, but chiefly junks of second and third class. Opposite the port the river is about 1100 yards wide, a fine, broad, flowing stream. The tide rises and falls a good many feet, thus facilitating navigation, but the bar is more formidable than at Ying-tsze, so much so that large southern junks find it advisable to discharge their cargoes outside. Like Ying-tsze, the river is frozen over from the end of November till March. Another harbour of some note is that called Pi-tsze-woa, lat. 39° 18', long. 122° 18'. This port is situated on the sea, and the harbour is pretty well defended from winds from all quarters by a series of rocks, which form a semicircle around it. Unfortunately the water is shallow, and many of the junks are left high and dry when the tide is out. This could be remedied by a pier, and it would be worth while to construct one, for this place has the great advantage of being open all the year round. The warehouses here are also large, and the import and export trade considerable.

*Population.*—T. T. Meadows, Esq., her Britannic Majesty's Consul, who has travelled extensively over the province, and who is now on an arduous journey toward *Tsitsi-har*, estimated the population to be about 12,000,000. Putting one thing with another, I am inclined to think the numbers not far wrong. The population consists of Manchus and Chinese. Originally the abode of the former, they have in a great measure migrated northwards, and the country has been occupied chiefly by immigrants from Shantung. A proportion of the aborigines still remain; in some places as many as one in three, in other places one in ten, and so on in various ratios; but those who have remained behind have invariably settled down either as farmers or in some other definite occupation, and are assimilating themselves to the Chinese in almost every respect. Some few of the more aged still speak the Manchu language, but in addition they all speak the Mandarin colloquial, and the youths are taught from Chinese books in their schools, just as in other portions of the empire. In some places youths are instructed in the Manchu character after they are acquainted with the Chinese, but such instances are rare, and the language is evidently dying out.

The prevailing portion of the inhabitants are thus Chinese, and have introduced all the peculiarities of their fatherland into their adopted country. The population being less dense, the soil fertile, the country new, they have more money to spare than in Shantung and elsewhere on the mainland, and on the whole are extremely comfortable. The head men of hamlets generally club together, and invite over some poor scholars from their native district to instruct their progeny, and thus education is diffused among them as well as in the cities. Year by year great numbers of coolies come over and make high wages as labourers. Some go back carrying their earnings with them, while others invite their families over and settle down permanently. Thus annually they add to their numbers. When travelling among them it was interesting and amusing to find them eagerly enquiring of my assistants, who were from Shantung and Chi-li, where they came from; and if it happened, as it often did, that one or other was acquainted with their native districts, they at once had no end of questions about their kindred and friends, just as old colonists, all the world over, besiege emigrants fresh from home.

*Industrial Pursuits.*—The bulk of the population is engaged in agriculture and in trades bearing upon that pursuit, such as blacksmiths, wrights, carters, &c. Some are employed in mining operations, and others in fishing, but these are a mere fraction of the population. Cotton cloth and silk are manufactured to some small extent, but that is performed by the farmers and their families in their leisure time. Their crops raised are diverse and important.

*Cotton.*—This important article of commerce is grown in several places in considerable quantities. The chief producing districts are, first, Kinchu; second, Hai-Ching and Lian-Yang; third, Hyong Yaou, south of Kai-Chow. The staple is very fair and the colour very good, and it could be grown in much greater quantities if necessary. They plant the seeds towards the close of April, and pluck the cotton in October. They steep the seed in liquid manure before sowing, but this is the sum total of all the labour expended upon it.

*Minerals.*—Not only is the soil fertile and the crops varied, the country underneath is rich in mineral resources. Coal prevails very extensively in all parts of the country. We found it both in the north and south in common use among the people. One of the chief producing districts lies on the north-east of Laou-Yang. In this locality two places stand out prominently—one called Ma-Kia-Kow, about 60 li, or 18 miles, north-east of that city, and the other, Pun-hi-ha, about the same distance from the former place, in the same direction. Large quantities of coal are mined in these places, and

distributed all over the country. The coal is good and useful for all sorts of purposes. Another producing district lies 90 li south of the city of Fuchow, in close proximity to the coast. Junks can come close to the pits, and thus great quantities are exported, especially to the eastern portion of the province of Shantung. The seams appear to be of great thickness.

*Gold.*—As might be anticipated, this precious metal is no stranger. It is found in many places towards the south of the promontory in greater or less quantities; but the most famous district is that on the east coast, to the north of the Pi-li-ho River. Here we passed over gold diggings and a gold-producing country, about 40 miles in length by 10 broad. Last year a serious quarrel arose among the gold-seekers, which resulted in murder, and on this account the mandarins interfered and put an end to the occupation for the present. We also heard of gold at Kinchu, which may be interpreted the “gold-district city.”

Those who have followed me so far must often have thought of Canada in comparison with this country. They possess many points of resemblance. A climate similar in its general features, an equally fertile soil, yielding similar crops, and each having a northern territory famous for its furs, each drained by a great river, and possessing a variety of minor seaports. But in some respects Manchuria bears the palm, the climate is a shade less severe, it probably possesses greater mineral wealth, produces cotton and silk unknown in that dependency, and in addition has seaports on the south which are open all the year round. I make this comparison to bring the matter home. How important has Canada been esteemed, and how poor our appreciation of Manchuria!

*CENTRAL MANCHURIA.—Extent and Boundaries.*—Manchuria may be said to lie within N. lat. 39° and 49°, and E. long. 120° and 133°. These lines embrace the limits in both directions, but the bulk of the country lies like a parallelogram across the map, N.E. by S.W., and measures approximately 800 miles in length and 500 miles in breadth.

I have already endeavoured to give some account of Southern Manchuria, and now add some notes taken during a long journey through the Central and Northern portions of the country. For the sake of clearness and brevity, I shall first give an outline of my route as indicated on the map which I have made, and then speak of the various things which appear worthy of remark, under separate heads.

Starting from Ying-tze, the port of Newchwang, we travelled north-east to Moukden, thence north by west to Fa-Kwho-Mun.

Passing through this Gate we entered Eastern Mongolia, and travelled north by east to Kwan-Chungtze. Here we diverged n. by w. to Petu-Na, and thence eastwards to A-She-hoh.

From this our route lay e. by n. till we reached San-Sing, on the Sungari, the last city in this direction in the Chinese Empire. The Russians have surveyed the river down this length, and have twice or thrice visited this place, so that our explorations and theirs have met and the whole of this quarter of Asia may now be considered as known. Our intention was to proceed from here due south to Ningata; but finding that there was no cart-road,—only a dangerous bridle-path, not even used by Mandarin runners, with no accommodation, and also ascertaining that boats would occupy too long a time, with no population to work amongst,—we were forced to retrace our steps a portion of the way and then proceeded south to Kirin; thence home *via* Kai-Yuen, Tie-ling, and Moukden; having travelled in all about 1400 or 1500 English miles.

*The Mountain Ranges.*—The chief of the mountain-ranges in Central Manchuria is that called the Shan-alin Mountains. Their highest peaks lie on the south-east of Kirin, where they reach the tremendous height ranging from 10,000 to 12,000 feet, their summits being covered with perpetual snow and glaciers. From this point they run north-east and south-west. Towards the north-east they form the watershed of the Hurka and the Usuri, and afterwards the Sungari and Usuri, and towards the north-west they form the boundary of the plain of Newchwang and the backbone of the promontory. These mountains sometimes rise into hills of great beauty and grandeur; as, for instance, in the hills of One-thousand Peaks near Hai-Chung, the hills near Sui-yen, and the range from Fung-Whan-Chung to the Corean Gate. Another range of mountains runs through a portion of Northern Manchuria, enters Central Manchuria about 80 miles east of A-She-hoh, proceeds south by west parallel to the river Hurka—forming a second watershed—then continues its march past Kirin on towards Moukden, where they gradually subside into the plain.

A third range of mountains lies in the Russian territories east of the Usuri and the Amoor. Their highest peaks run parallel to the sea, and not far distant from it; so that the streams which flow eastward are not to be compared in size and volume to those which flow westward and pour their waters into the Usuri and Amoor. This range, as a rule, appears to be higher than those east of it. (These are not to be looked at as single ranges, but rather separate mountain-districts lying in the specified directions, and often forming



mountain masses where the mountains appear to be tumbled about in all quarters.)

*The Great Rivers.*—Corresponding to the three chains of mountains are three great rivers, the Sungari, the Hurka, and the Usuri.

The *Sungari*, which is by far the most important, both in reference to length of course, volume of water, and extent of basin, takes its rise on the north-western side of the Shan-a-lin Mountains, and proceeds in a direction N. by W., receiving a great many tributaries from the surrounding hills, and sweeps past Kirin—a majestic river.

The *Usuri*.—The river next in point of size to the Sungari is the Usuri. It rises about lat. 44°, receiving numerous tributaries of more or less importance, and after a course of about 500 miles pours its waters into the Amoor.

The *Hurka*.—The third river is the Hurka or the Mootwan-hoh (the River of the Mootwan Flower), as the Chinese call it. It rises about lat. 43°, not far from the source of the Sungari, takes a northerly direction, passes by Ninguta, receives two important tributaries from the west and one from the east, and then debouches into the Sungari at San-Sing. Here, at its junction, we found it almost 200 yards wide, with a good volume of water. At this city we found several small junks from Ninguta, trading with the merchants.

*Configuration of the Country.*—Judging from the character of the mountain-ranges and flow of the rivers, it appears that the country slopes from east to west, and from south to north—the course of the Sungari River making its lowest point—from which the country again begins to ascend towards the north and west; so that Central Manchuria and Northern Manchuria is just one huge basin, corrugated by several mountain-ranges, with their respective streams,—the mouth of the basin lying towards the north-east.

*Climate.*—The extremes of climate are more marked than in Southern Manchuria, but by no means so excessive as to interfere with agriculture. The winter begins about the close of October, and ends at the commencement of March, and the other seasons are proportionately narrowed; but the shortness of the time is compensated as elsewhere by the rapidity of growth and maturity.

*Cities and Chief Towns.*—Kirin is the capital of the province. It is most beautifully situated, more so than any city I have visited in China. It lies at the foot of hills of varying size and contour, which form about three-fourths of a circle around it. The open space on the south is occupied by the Sungari, a fine majestic river, sweeping past it, and then making its way through a valley northwards. Opposite the city it is about 300 yards broad;

and when I was there, it was as placid as a summer lake, and as blue as the sky above, forming a most beautiful contrast with the city and fields beyond.

The city itself is not equal to the situation. Had Moukden such a position it would be a noble place; as it is, the streets are narrow and irregular; the shops low in roof, inferior in style, the best being but second and third rate in character.

NORTHERN MANCHURIA.—*Boundaries and Extent.*—This province, called Tsi-tsi-har, or more generally Hieh-Soong-Kiang, or “The Black Dragon River Province,” by the Chinese, is bounded on the north by the Amoor, on the east and south by the Sungari, and on the west by the Nonni and Mongolia. Its area is 195,000 square miles. There appear to be only two cultivated regions in this province, viz., that in the valley of the Nonni, and along the banks of the Sangari. In the former we have the cities of Tsi-tsi-har (or Sinia-Pu-Kwhe) and Mergen; and in the latter the town of Hu-lan and several villages of greater or lesser importance. The other portions are in their natural wild condition.

We travelled about 90 or 100 miles in this district, on the north of the Sungari, and found villages few, far separate, people sparse, and only patches round their dwellings under cultivation.

The soil appeared excellent, only waiting the spade of the settler to yield an abundant harvest.

In some places prairie ground, dotted with herds of cattle carefully tended, stretched as far as the eye could reach, and at other times mountains rose in succession far on towards the north.

*The Future of the Country.*—Estimating Liao-tung approximately at 60,000 square miles, Kirin at 135,000, Tsi-tsi-har at 195,000 square miles, this gives an area of 390,000 square miles, or 249,600,000 square acres. If you add to this the country of Eastern Mongolia, which lies in the same latitudes, you have a territory nearly equal to the half of China Proper. Possessed of a good climate, fertile soil and mineral resources, and good harbours—by far the greatest portion of it as yet hardly touched by man—who can doubt but that a great future lies before it? One thing is evident: it is clearly intended to receive and support the overflow of the Chinese population in the north of China for many years to come; and when it is properly opened up, and attention directed to its minerals, it must, together with Corea, rise into one of the most important districts in this quarter of the earth, and play an important part in the history of the world.

The paper will be published *in extenso*, with the author's map, in the Journal, vol. xxxix.

The PRESIDENT, before calling for any observations on Mr. Williamson's paper, said it was his duty to call upon the Fellows of the Royal Geographical Society to return their heartfelt thanks to the President and Managers of the Royal Institution for granting the use of the Theatre, in which they were then assembled, for the whole of the present Session. A long period had elapsed since the Royal Geographical Society had assembled within those walls. On that previous occasion his Royal Highness Prince Albert occupied the chair which was now so worthily filled by his Highness the Envoy from Zanzibar. The Theatre of the Royal Institution had been dignified by the presence of Davy and Faraday in former days, and its high character was still maintained by Tyndall and other distinguished men. He was, therefore, overjoyed to think that the Geographical Society was considered worthy to occupy that room.

With reference to Mr. Williamson's paper, he should first call upon Mr. McLeavy Brown to speak upon it, he having been for eight years attached to the British Embassy at Peking, and having visited various parts of the North of China.

Mr. McLEAVY BROWN said the paper was filled from beginning to end with information instructive not only to members of the Geographical Society, but also to those who had lived in China. Mr. Williamson's occupation in China led him to travel over the country a great deal; he possessed a singularly calm and just temper, was a close and accurate observer, and had the faculty of recording what he saw in clear and precise language. As an instance of his spirit of research, he might mention that about two years ago Mr. Williamson visited the capital of the province of Shansi in the west of China. About 1500 years ago some Nestorian missionaries from Persia visited China, and planted Christianity there. No trace of these missionaries was found until about a hundred years ago, when the Jesuit missionaries discovered a monument which had been erected in the seventh or eighth century, recording the fact that Christian missionaries had been there. The existence of that monument had been doubted. Mr. Williamson visited the place about two years ago, and found the monument, situated outside the town, in a temple. Although the whole suburbs surrounding this place had been completely destroyed by the Mohamedans five or six years ago, this portion of the temple in which the monument was placed was left standing. He took rubbings of the monument, and sent them to England. With reference to the productions of the province of Shansi, coal and iron were found in abundance, disposed in contiguous layers. The coal was raised from a great depth by perpendicular shafts. In all other parts of China, the Chinese began by attacking the beds where they cropped out, and they followed the various foldings of the strata as they rose and fell. The province of Liaotung was of considerable importance to us, several of our vessels being employed in the coasting trade, which was thrown open to all the world. The chief things brought from the province were paid for in opium. With regard to the alleged baneful effects of opium, he was not inclined to go so far as Mr. Williamson. It was used by the Chinese much as tobacco is by the people of this country; it was only in exceptional cases that it was smoked to excess so as to injure health. It was a soporific, and taken as a kind of stimulant, pretty much as dram-drinking is in this country. Mr. Williamson had denounced the introduction of opium into the country. It was undermining the morals of the people, and we were responsible for that; and we might trace to that the antipathy which has been shown to foreigners during the last thirty or forty years. In regard to the introduction of railways, they would be exceedingly desirable in China; but there were very great difficulties to be overcome. They would interfere with vested interests, they would interfere with the great carrying trade all over China, and with a still greater prejudice which had not to be overcome in Western Europe or America. This was the disturbance of the burial-places of the people. China was one vast

graveyard from beginning to end; the dead in this country are not concentrated in cemeteries, but scattered at convenient places all over the country. The consequence was that round all the cities the country was dotted with little knobs of gravestones, which the Chinese prized exceedingly, because the grave was to a Chinaman his only place of worship, and the reverence to departed ancestors the most sincere of their religious feelings. If we made a railway through China we must demolish millions of these graves; therefore, we must expect to meet with an enormous amount of prejudice on the part of the Chinese. Telegraphs and other works of public importance we might introduce; but as to the introduction of railways, that would be a matter of very slow progress.

Sir HOPE GRANT, K.C.B., said with regard to the opium trade he thought it was one of the greatest blots on our character. He quite agreed with Mr. Brown, that if opium was smoked in moderation it was not deleterious. But the evil was that when once a person began to smoke, he could not relinquish the habit, and the consequences then became injurious. In this way more harm had been inflicted upon the Chinese than by anything which had been introduced into the country. With regard to the question of coal, he remembered, when he was at Pekin, a substance being used which appeared to be a composition of clay and coal, and which burned singularly clear. The seats or beds in the rooms were warmed by fires underneath, lighted from the outside. If these are not lighted very cautiously much discomfort ensued. He remembered one of his staff lighting his fire on going to bed, and falling asleep on his couch. The fire burned merrily, but woke up the sleeper very unpleasantly. As Mr. Brown said, the Chinese did not understand mining properly, the coal was all taken from the surface.

Mr. McLEAVY BROWN said when Sir Hope Grant was in Pekin certain mines in the neighbourhood had not been opened. Two or three years after the Embassy took up their residence in Pekin, they found that the Chinese brought them excellent coal, quite equal to the best Welsh, burning clear and leaving scarcely any ash. He was sent by Sir Frederick Bruce to visit the mines, which he found were situated 60 miles to the west of Pekin, in a valley very difficult of access. The coal was of excellent quality, and was found upon analysis to leave only 2 per cent. of ash. There was a mountain pass to be crossed which could only be traversed by mules. All the coal they used in Pekin was brought this distance of 60 miles on mule-back; the consequence was it cost 45s. a ton at Pekin. The kind of coal spoken of by Sir Hope Grant might be used with advantage as an economical combustible in this country. The Chinese grind clay into a fine powder, moisten it with water, and then mix it with coal dust (such as is wasted in England) in equal proportions. The admixture of clay reduced the combustion of the coal, and allowed it to burn until it was completely consumed, without any smoke coming from it. The coal-dust used was the dust of the anthracite coal. Hundreds and thousands of camels were employed to bring anthracite coal from the neighbourhood into Pekin. In his morning rides he had met as many as 450 camels at a time coming into Pekin, and this would go on every month for months in succession.

The PRESIDENT said, as a geologist, he could confirm what Mr. Brown had said. From an examination of fossils which had been found associated with this coal, he had no hesitation in saying that the coal found in China was of the true carboniferous period, like the English coal.

Mr. LOCKHART said Mr. Williamson was a friend and colleague of his; they had laboured together as missionaries in different parts of China, and more especially at Shanghai. Mr. Williamson went to the promontory of Shantung, where he had lived some time. His journey in Manchuria was undertaken as an agent of the Bible Society, and, as they had seen by his paper, he was a careful observer of the country and of the varieties of people among whom he

travelled. He was not going to follow Mr. Williamson in his journey, but would rather take up one or two points respecting a part of the country which he had himself visited. The road to Moukden was a fine military road which had its guard-houses, and which was kept in order to a certain extent. In some districts it was in a state of decay; but it was a large broad road with ferries at the various rivers. He had travelled along it in winter when the thermometer was below zero, and was driven in the carts of the country across wide and deep rivers, the whole of the water being turned into a solid mass of ice. The object of that journey was to accompany Mr. Meadows to the port of Teentsin, who had met with a serious accident while on a shooting expedition. The district between Newchang and Moukden was one extensive coalfield; all that plain, including the plain of Peking down to the south and westward, was one immense coal-field. Had Sir Hope Grant remained in Peking a few months longer, he might have sat by as pleasant and cheerful a fire as he ever enjoyed in these islands. Coal was found extensively throughout this district of Northern China and Southern Manchuria, and some day, when our coals got used up in England, we should find there an abundant supply not only for India, but also for Europe itself. As to the production of gold in these countries, gold-fields were to be found on the eastern slopes of the ridge of mountains to the east of the Usuri River; in fact, along the whole of the east coast, and also in Corea to a large extent. The merchants from Corea brought their gold in carts round to Peking, in about thirty or forty days, where they exchanged it for silk and other products. The promontory of Shangtung was also a great gold-field. Mr. Williamson was the first European who described it. Grains of gold were found by natives many years ago throughout all these regions. And now a great number of Americans and Englishmen had located themselves in the mountains of the promontory, and were digging gold extensively. As they got into the side of the mountains they would find a still larger amount of this valuable commodity. He differed from Mr. Brown in his estimate of the effect of opium upon man. He was a surgeon, and he knew more of the effects of opium upon the Chinese than anyone else, having, during twenty-five years' residence in China, had more than 20,000 Chinese patients suffering from the effects of that drug. It was often taken in consequence of the amount of intermittent fever which prevailed among the Chinese; it was taken to relieve the pain which they suffered. It was then smoked in moderate quantities; but when restored to health an irreparable mischief was done by the habit of smoking which the patient had thus acquired being continued. It was a most injurious and fatal habit,—the most fatal vice that men can fall into. The effect of opium on the individual being far more pernicious even than spirit-drinking. When the habit was once acquired, the temptation to continue it was so strong that the people could seldom shake it off without medical aid. He had calculated, from the quantity imported into and grown in China, that only three millions of the people smoked it to any extent, that was one per cent. of the population. The chief consumption was on the seaboard. We should bear in mind that the evil had the sanction of the British Government, in permitting it to be grown in India and taken to China. It was a crying sin on the part of the English Government to allow such a course to be pursued. But, on the other hand, it should be stated that we did not teach the Chinese the practice of opium-smoking; they taught themselves. Nor was Mr. Williamson correct in saying that we introduced opium into Manchuria. We did nothing of the kind. There were hundreds of miles of poppy cultivation on the Yang-tse-Kiang; there were extensive districts in Mongolia where the poppy was grown, and also in Manchuria. The Chinese grew it long before Indian opium came into China. The Chinese produced about one-half of what they consumed, and we sent them the other half. With respect to railways, the day for railways in China had not yet come. There were many things we had to do in China before we

introduced railways. The Chinese would not have railways for many years. Not only for the reason that Mr. Brown had suggested, but also on this account,—that at all the railroad stations there must be European mechanics, European engineers, and European officials; and in this way Europeans would pervade the whole country. This is what the Chinese feared; and it was this fear which would keep railroads out of the country for a long time to come.

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*Third Meeting, December 14th, 1868.*

SIR RODERICK I. MURCHISON, BART., K.C.B., PRESIDENT, in  
the Chair.

PRESENTATIONS.—*The Marquis of Ely; Dr. A. E. Mackay; R. H. Glyn, Esq.; Lieutenant T. H. Holdich; Sir Charles Staveley.*

ELECTIONS.—*W. S. Dunbar Abbott, Esq.; A. S. Bickmore, Esq.; J. A. Brand, Esq.; Colonel David Brown; William Mead Corner, Esq.; Henry Cook, Esq., M.D.; The Marquis of Ely; Rev. Edward Hale; J. A. W. Harper; Alfred Hooper, Esq.; Thomas Johnston, Esq.; Captain H. P. de Kantzow; William Nicol, Esq.; William T. Palilogus, Esq.; John Ronalds, Esq.; Joseph Seaton, Esq., M.D.; William Strang Steel, Esq.; J. T. Sabben, Esq., M.D.*

ACCESSIONS TO THE LIBRARY FROM 23RD NOVEMBER TO 14TH DECEMBER, 1868. *Donations* :—‘*Travels in the East Indian Archipelago.*’ By A. S. Bickmore, 1868. Donor, the author. ‘*Commercial Reports: China and Japan, 1868.*’ Donor, the Hon. E. Hammond. ‘*Peruvian Coast Pilot.*’ By Captain Aurelio Garcia y Garcia. New York, 1866. Donor, the author. ‘*Mount Vesuvius, 1868.*’ By J. Logan Lobley. Donor, the author. ‘*To Ophir Direct (South African Gold-fields).*’ By Bamangwato. Donor, A. Broderick, Esq. A collection of original Maps and Documents relating to Routes in the Vicinity of the Niger, made by Clapperton. Donor, W. D. Cooley, Esq. ‘*Alaska (formerly Russian America), 1868.*’ By Frederick Whympster. Donor, the author. *Transactions of Home and Foreign Societies, &c.*

ACCESSIONS TO THE MAP-ROOM SINCE THE LAST MEETING, NOVEMBER 23RD, 1868.—Map of Australia, showing the proposed Route of Exploration from East to West, through the Centre of Australia, as suggested by Dr. Neumayer. Presented by Dr. A. Petermann. Map of the North-West Part of Africa; showing the Explorations of Gerhard Rohlfs, from Tripoli to Lake Chad. On 2 sheets. Presented by Dr. A. Petermann. Map of Brazil. By Colonel C. J. de Niemeyer. Presented by the author. 3 Atlases of Brazil, viz :—

1. Atlas of the River San Francisco, with Appendix; 2. Ditto of the River Amazons; 3. Ditto of Brazil, in Provinces. By Dr. Candido Mendes D'Almeida. Presented by the Brazilian Minister. Also two copies of the City of Buenos Ayres. By S. Salas, &c., &c. A Photograph of a Model of Victoria, Australia. Presented by C. D. Liger, Surveyor-General.

The following paper was read by the Author:—

*From Metemma to Damot, along the Western Shores of the Tana Sea.*

By HENRY BLANC, M.D., M.R.C.S.E., F.R.G.S., &c., Staff-Assistant-Surgeon H.M. Bombay Medical Staff. Lately on Special Duty in Abyssinia.

[EXTRACTS.]

THE distance from Metemma to Aschfa, the district where we met Theodore, is about 240 English miles; and to accomplish that journey we had to march through passes and defiles, follow the western shores of the Tana Sea, cross some of the finest provinces of Abyssinia, and ride over undulating plains, graced by the presence of mighty herds of cattle, or walk single file amidst boundless cultivated fields.

The line of march necessity enforced upon our troops was the lofty, irregular, mountain-chain separating the sandy shores of the Red Sea from the plateaus, plains, and valleys, of Abyssinia Proper. A barren, desolate tract, the watershed of the Mareb, the Tacazzé, the Jeddah, and the Bechelo, as different from the lands they beautify and enrich as the snow-capped peaks of the Swiss Alps, the cradle of many a mighty stream, are a dreary contrast to the rich and fertile regions watered by the Isel or the Rhone.

After leaving Metemma, the first 30 miles retain still many of the features of the plain, mingled here and there with the first vestiges of the mountain-ranges, rising so bold and grand on the distant horizon; stunted acacias, our constant companions in the Soudan, cover here again every rising ground, forming small detached woods, graced by tall venerable tamarinds, or entangled with some thorny varieties of the *leguminosæ*. The ravines and small valleys, luxuriant with tropical vegetation, are but miniatures of the glorious valley of the Atbara. All these have their rivulets, and, like the mighty tributary of the Nile, are lined with trees, similar to the boulevards of a great city, and surrounded by unweeded gardens so lovely in their savage beauty.

When we passed, the tall grass was just losing its green tinge for a paler hue; trampled and beaten down on the almost hidden path, it covered, like a carpet, the stony ground—a welcome friend to our